



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,981	12/28/2005	Micha Zimmerman	69005-00002USPX	3595
30223	7590	06/09/2008	EXAMINER	
NIXON PEABODY LLP			HASAN, MOHAMMED A	
161 N. CLARK STREET			ART UNIT	PAPER NUMBER
48TH FLOOR			2873	
CHICAGO, IL 60601-3213			MAIL DATE	DELIVERY MODE
			06/09/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/562,981	Applicant(s) ZIMMERMANN, MICHA
	Examiner Mohammed Hasan	Art Unit 2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 21 February 2008.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 23-28,36 and 52-66 is/are pending in the application.
 4a) Of the above claim(s) 1-21,32-34 and 38-44 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 23-28,36 and 52-66 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 28 December 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23-28, 36, and 52-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Do et al (6,775,076 B2).

Regarding claim 36, Do et al discloses (refer to figure 1) a method for optical alignment, comprising: mounting an optical element comprising a curved surface on a mounting surface of an optical bench (56); mounting an optical component on mounting surface bench, element and aligning the optical element with the optical component (20,34,36,38) by relative rotation of the optical element on the mounting surface while the curved surface is engaged therewith and fixing the optical element to opening while the curved surface is engaged in an opening to maintain the alignment achieved by the rotation of the optical element relative to optical component (column 4, lines 20-30).

Do et al discloses all of the claimed limitations except mounting surface forming an opening having a size and shape suitable to engage the curved surface of the optical.

However Do et al discloses support 56 have wrap around area further shown moving optical component axis direction (column 4, lines 45-55).

It would have obvious to one of ordinary skill in the art at the time invention was made to provide support and rotating optical component in to the Do et al optical alignment assembly for the purpose of increase the structural stability of the mounted components as taught by Do et al (column 2, lines 12-17).

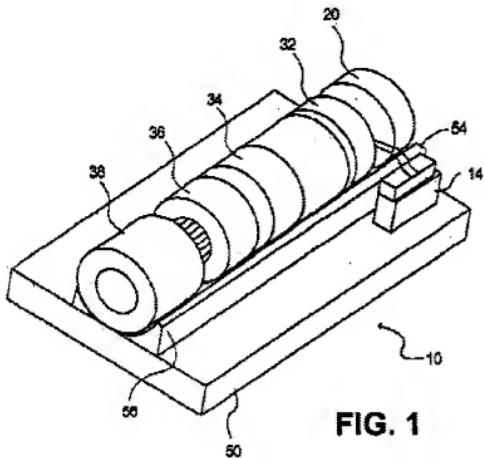


FIG. 1

Regarding claim 23, Do et al discloses ,wherein the curved surface has a center of curvature, and wherein the size and shape of the opening are such as to permit the alignment by rotation of the optical element about the center of curvature (as shown in figure 1).

Regarding claim 24, Do et al discloses wherein the size and shape of the opening permit the alignment of the optical element with the component by translation of the optical element within the opening while the curved surface is engaged by the opening (as shown in figure 1).

Regarding claim 25, Do et al discloses wherein the curved surface performs at least one of refraction, reflection, and diffraction of electromagnetic (EM) radiation incident thereon, and wherein the alignment comprises adjusting a path of the radiation between the component and the optical element (as shown in figure 1).

Regarding claim 26, Do et al discloses wherein the curved surface comprises at least one further surface configured thereon, and wherein the alignment comprises adjusting a path of EM radiation transferred between the at least one further surface and the component (as shown in figure 1).

Regarding claim 27, Do et al discloses wherein the optical element comprises a region within the optical element that is adapted to perform at least one of refraction, reflection and diffraction of EM radiation incident on the region, and wherein the alignment comprises adjusting a path of the EM radiation between the region and the component (as shown in figure 1).

Regarding claim 28, Do et al discloses , comprising configuring an internal optical element within the optical element, and configuring an optical element opening to the internal optical element within the curved surface (as shown in figure 1).

Regarding claim 52, Do et al discloses (refer to figure 1) a method for optical alignment, comprising: mounting an optical element comprising a curved surface on a mounting surface of an optical bench (56); mounting an optical component on mounting surface bench, element and aligning the optical element with the optical component (20,34,36,38) by relative rotation of the optical element on the mounting surface while the curved surface is engaged therewith and fixing the optical element to opening while the curved surface is engaged in an opening to maintain the alignment achieved by the rotation of the optical element relative to optical component (column 4, lines 20-30).

Do et al discloses all of the claimed limitations except mounting surface forming an opening having a size and shape suitable to engage the curved surface of the optical.

However Do et al discloses support 56 have wrap around area further shown moving optical component axis direction (column 4, lines 45-55).

It would have obvious to one of ordinary skill in the art at the time invention was made to provide support and rotating optical component in to the Do et al optical alignment assembly for the purpose of increase the structural stability of the mounted components as taught by Do et al (column 2, lines 12-17).

Regarding claim 53, Do et al discloses (refer to figure 1) a method for optical alignment, comprising: mounting an optical element comprising a curved surface on a

mounting surface of an optical bench (56) ; mounting an optical component on mounting surface bench, element and aligning the optical element with the optical component (20,34,36,38) by relative rotation of the optical element on the mounting surface while the curved surface is engaged therewith and fixing the optical element to opening while the curved surface is engaged in an opening to maintain the alignment achieved by the rotation of the optical element relative to optical component (column 4, lines 20-30).

Do et al discloses all of the claimed limitations except mounting surface forming an opening having a size and shape suitable to engage the curved surface of the optical.

However Do et al discloses support 56 have wrap around area further shown moving optical component axis direction (column 4, lines 45-55).

It would have obvious to one of ordinary skill in the art at the time invention was made to provide support and rotating optical component in to the Do et al optical alignment assembly for the purpose of increase the structural stability of the mounted components as taught by Do et al (column 2, lines 12-17).

Regarding claim 54, Do et al discloses, wherein the one or more actuators comprise two actuators distributed symmetrically with respect to the optical element (as shown in figure 1).

Regarding claim 55, Do et al discloses (refer to figure 1) a method for optical alignment, comprising: mounting an optical element comprising a curved surface on a mounting surface of an optical bench (56) ; mounting an optical component on mounting

surface bench, element and aligning the optical element with the optical component (20,34,36,38) by relative rotation of the optical element on the mounting surface while the curved surface is engaged therewith and fixing the optical element to opening while the curved surface is engaged in an opening to maintain the alignment achieved by the rotation of the optical element relative to optical component (column 4, lines 20-30).

Do et al discloses all of the claimed limitations except mounting surface forming an opening having a size and shape suitable to engage the curved surface of the optical.

However Do et al discloses support 56 have wrap around area further shown moving optical component axis direction (column 4, lines 45-55).

It would have obvious to one of ordinary skill in the art at the time invention was made to provide support and rotating optical component in to the Do et al optical alignment assembly for the purpose of increase the structural stability of the mounted components as taught by Do et al (column 2, lines 12-17).

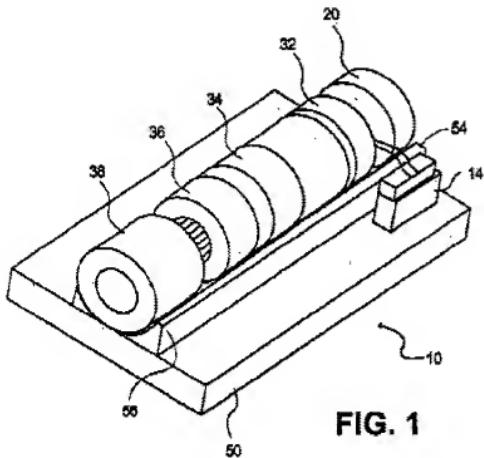


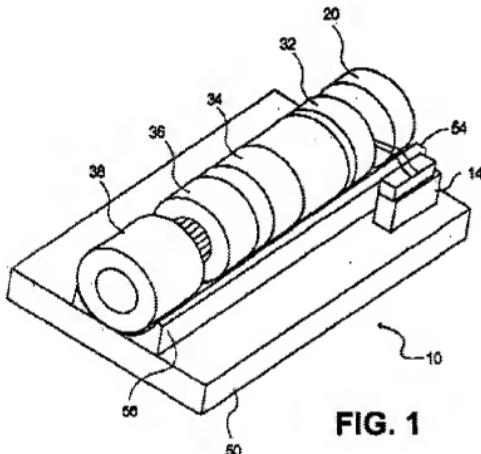
FIG. 1

Regarding claim 56, Do et al discloses (refer to figure 1) a method for optical alignment, comprising: mounting an optical element comprising a curved surface on a mounting surface of an optical bench (56); mounting an optical component on mounting surface bench, element and aligning the optical element with the optical component (20,34,36,38) by relative rotation of the optical element on the mounting surface while the curved surface is engaged therewith and fixing the optical element to opening while the curved surface is engaged in an opening to maintain the alignment achieved by the rotation of the optical element relative to optical component (column 4, lines 20-30).

Do et al discloses all of the claimed limitations except mounting surface forming an opening having a size and shape suitable to engage the curved surface of the optical.

However, Do et al discloses support 56 have wrap around area further shown moving optical component axis direction (column 4, lines 45-55).

It would have obvious to one of ordinary skill in the art at the time invention was made to provide support and rotating optical component in to the Do et al optical alignment assembly for the purpose of increase the structural stability of the mounted components as taught by Do et al (column 2, lines 12-17).



Regarding claim 57, Do et al discloses, wherein coupling the one or more actuators comprises embedding the one or more actuators in the optical bench (as

shown in figure 1).

Regarding claim 58, Do et al discloses, wherein coupling the one or more actuators comprises attaching the one or more actuators to the optical bench(as shown in figure 1).

Regarding claim 59, Do et al discloses , wherein the one or more actuators contact the curved surface (as shown in figure 1).

Regarding claim 60, Do et al discloses wherein the one or more actuators produce surface waves which contact the curved surface (as shown in figure 1).

Regarding claim 61, Do et al discloses wherein the curved surface is formed by a spherical lens (as shown in figure 1).

Regarding claim 62, Do et al discloses, wherein the spherical lens includes a substantially flat surface that breaks the symmetry of the spherical lens to allow optical alignment by rotation of the spherical lens (as shown in figure 1).

Regarding claim 63, Do et al discloses, wherein both a spherical surface and a flat surface of the lens are in the path of an optical beam passed through the lens to the optical component (as shown in figure 1).

Regarding claim 64, Do et al discloses, wherein the spherical surface of said lens is in contact with the mounting surface (as shown in figure 1).

Regarding claim 65, Do et al discloses ,which includes fixing the spherical surface to the mounting surface while the spherical surface is engaged by the mounting surface (as shown in figure 1).

Regarding claim 66, Do et al discloses (refer to figure 1) a method for optical

alignment, comprising: mounting an optical element comprising a curved surface on a mounting surface of an optical bench (56) ; mounting an optical component on mounting surface bench, element and aligning the optical element with the optical component (20,34,36,38) by relative rotation of the optical element on the mounting surface while the curved surface is engaged therewith and fixing the optical element to opening while the curved surface is engaged in an opening to maintain the alignment achieved by the rotation of the optical element relative to optical component (column 4, lines 20-30).

Do et al discloses all of the claimed limitations except mounting surface forming an opening having a size and shape suitable to engage the curved surface of the optical.

However Do et al discloses support 56 have wrap around area further shown moving optical component axis direction (column 4, lines 45-55).

It would have obvious to one of ordinary skill in the art at the time invention was made to provide support and rotating optical component in to the Do et al optical alignment assembly for the purpose of increase the structural stability of the mounted components as taught by Do et al (column 2, lines 12-17).

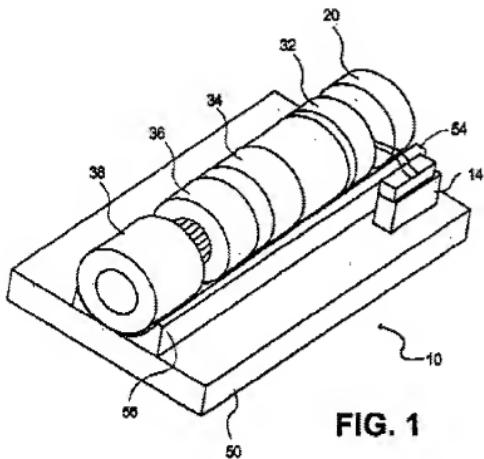


FIG. 1

Conclusion

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammed Hasan whose telephone number is (571) 272-2331. The examiner can normally be reached on M-TH, 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky L Mack can be reached on (571) 272- 2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mohammed Hasan/
Primary Examiner, Art Unit 2873
6/5/2008